

REMARKS

Claims 5-7 & 14-18 are in this application and presented for consideration. Claims 1-4 have been canceled in response to the upholding of the previous restriction requirement, however, applicant reserves the right to pursue such claims in a continuation or divisional application. Claims 15-18 have been added.

Revised drawings, in which reference numbers that correspond to the reference numbers of the preceding drawings were additionally entered (in Figures 5 through 8), are enclosed. Additional numbering has been added in Figures 6, 7 and 8.

Re item 1:

Applicant has canceled claims 1-4 in response to the restriction requirement, however, applicant continues to assert that the special honeycomb structure can be produced only according to a method as shown in our Figures 2 through 8. The methods for producing such honeycomb structures that were cited by the Examiner pertain to a completely different manner of production, and the leaves, which are usually pre-corrugated, are fitted one on top of another and bonded or welded together in different ways. By contrast, the present invention utilizes a method in which a plurality of endless film strips, which are flexible and not pre-corrugated, are corrugated and welded together in a continuous process to form a honeycomb. Compared with the methods cited by the Examiner, this honeycomb is produced from the other side, i.e., at an angle of 90°. The resulting honeycomb structure shown in Figure 8 is identical to that shown

in the view of the present application shown in Figure 1.

Re item 2:

The revised version of the drawings attached shows the additional reference numbers as requested. It should be stated in this connection that the reference numbers 1 shown in Figure 1 designates the honeycomb structure per se, reference number 2 designates the horizontal partial areas of the honeycomb structure, reference number 3 designates the vertical partial areas of the honeycomb structure, and reference number 4 designates the welded connection points of the honeycomb structure. Reference number 5 designates the clean, corrugated edge structure. Corresponding changes have been made to the specification.

Re item 3:

Claims 8 through 13 have been canceled. Applicant has revised the original claim 5 in order to make it more clear that the so-called pressing-on motion correspondingly becomes clear for the manufacturing process of the honeycomb structure.

In addition, it should be noted that the term "pressing-on device" has been changed to "pressing-on motion," because the pressing-on motion describes nothing else but the fact that the welding head 6 and the fingers 10 are pressed onto each other (see claim 5). The components 6 and 10 together form the pressing-on device. In addition, it shall be pointed out that the "fingers with heating wire" according to claims 6 and 7 are designated by the reference number 13. In addition, the designation "feed elements" are selected instead of "slide elements,"

and pertaining to old claim 14 the entire "finger system (10)" is meant here instead of the "slide elements".

Re item 4:

Additional reference numbers have been included in Figures 6, 7 and 8. The blackened regions on the left-hand side of the fingers are "flexible welding pads (12)," which form a flexible, soft welding surface. Corresponding changes have been made to the specification.

Re item 5:

In response to the points raised by the Examiner under Item 5, claims 8 through 13 (original text of the application) have been canceled. The points raised regarding claims 5 through 7 and 14 are taken into account in the comments in connection with Item 3. Corresponding changes have been made to the specification.

Re item 6:

The components called "slides (8)" designate the so-called feed elements (8), which bring about the feed motion of the honeycomb structure after the welding of a honeycomb layer. Corresponding changes have been made to the specification.

Re item 8:

As was already mentioned under Item 3, claims 8 through 13 have been canceled.

In addition, it is pointed out that the text of claim 5 has been changed such that the so-called "pressing-on motion" as opposed to the previously phrased "pressing-on device", becomes correspondingly clear for enablement of the manufacturing process of the honeycomb structure

Re item 10:

Reference is made to the amended version of claim 5 for the explanations concerning this item. The so-called "slide elements" represent the feed elements 8, which push the honeycomb structure forward as soon the welding of a honeycomb layer has been completed and as soon as the fingers 10 have been removed from the honeycomb structure. As soon as the feed elements 8 have concluded their forward movement, the fingers 10 move again into the honeycomb structure, doing so at the position at which the next honeycomb layer can be manufactured. Corresponding changes have been made to the specification.

Re item 13:

The prior-art reference Kehl et al. (DE 197 03 961) describes a method for manufacturing a honeycomb structure from a plurality of material strips, which have a corrugated shape, wherein the material strips are fitted together and welded one onto another, in order to form a corresponding honeycomb structure.

The prior-art reference Johnson (US 5,437,936) describes a method for producing a honeycomb structure from a plurality of solid material strips, wherein the metal strips are fitted

onto one another and are welded together by means of laser beams. The prior-art reference Johnson describes, in principle, the usual way of producing paper or aluminum honeycombs.

There is no similarity between the methods known from these two prior-art references and the method proposed by the applicant for producing a honeycomb structure because the present invention is based on first corrugating a plurality of flexible, film-like strips and then welding them together, so that a self-supporting, solid honeycomb structure is obtained as soon as the manufacturing process is completed. Moreover, the direction of production is rotated by 90° compared with the method described by Kehl et al. and by Johnson. It is therefore applicant's position that the present invention patentably defines over the prior art.

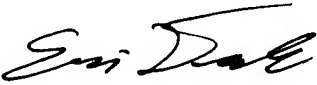
Moreover, it should be borne in mind that the method disclosed by Johnson can be used only for solid metal or paper strips because of the fact that the honeycomb structure would not maintain its shape after the pulling apart in the case of the use of flexible film strips. This is an essential reason why the present invention, which is to be patented, has been developed, and it should be additionally borne in mind that the manufacture of a self-supporting honeycomb structure according to the present invention makes it possible to prepare cleanly shaped end areas of the finished honeycomb structure package. It is therefore applicant's position that the present invention patentably defines over the prior art.

Applicant has enclosed a number of photos, which show an embodiment of the subject of the present invention from different perspectives and especially also details of features that are essential for the present invention. The photos are on the CD-ROM labeled "Pictures of elements of production plant for honey combs." A film showing the mode of operation of the

production plant is contained on a second CD-ROM labeled "Film of working production plant for honey combs." The Examiner is invited to view these materials as an aide to the materials already presented regarding the design of the present invention.

Favorable action on the merits of this application is respectfully requested.

Respectfully submitted
for Applicant,


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Enclosed: (1) Replacement Drawing Sheet
(1) Annotated Drawing Sheet Showing Changes
(2) CDs containing pictures and an MPEG movie of the present invention

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BY:  DATE: August 20, 2003